

Date: Sun, 9 Oct 94 04:30:34 PDT  
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>  
Errors-To: Ham-Space-Errors@UCSD.Edu  
Reply-To: Ham-Space@UCSD.Edu  
Precedence: List  
Subject: Ham-Space Digest V94 #285  
To: Ham-Space

Ham-Space Digest                      Sun, 9 Oct 94                      Volume 94 : Issue 285

Today's Topics:

                    ARLK045 Keplerian data  
                    Phase schedules  
            STS-68 Orbital State Vector Rev #118 (2 msgs)

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>  
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.  
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Date: Sat, 08 Oct 1994 14:23:49 EDT  
From: w1aw@arrl.org  
Subject: ARLK045 Keplerian data

SB KEP @ ARL \$ARLK045  
ARLK045 Keplerian data

ZCZC SK13  
QST de W1AW  
Keplerian Bulletin 45 ARLK045  
From ARRL Headquarters  
Newington, CT October 8, 1994  
To all radio amateurs

SB KEP ARL ARLK045  
ARLK045 Keplerian data

Thanks to NASA, AMSAT and N3FKV for the following Keplerian data.

Decode 2-line elsets with the following key:

1 AAAAAU 00 0 0 BBBB.BBBBBBBB .CCCCCCC 00000-0 00000-0 0 DDDZ  
2 AAAAA EEE.EEEE FFF.FFFF GGGGGGG HHH.HHHH III.IIII JJ.JJJJJJJKKKKKZ  
KEY: A-CATALOGNUM B-EPOCHTIME C-DECAY D-ELSETNUM E-INCLINATION F-RAAN  
G-ECCENTRICITY H-ARGPERIGEE I-MNANOM J-MNMOTION K-ORBITNUM Z-CHECKSUM

STS-68

1 23285U 94062A 94280.25000000 .00020611 11099-4 10039-4 0 285  
2 23285 56.9931 45.4345 0009334 299.6772 57.5316 16.22384282 1096

AO-10

1 14129U 83058B 94274.43486862 .000000009 00000-0 10000-3 0 3153  
2 14129 26.8409 305.1981 6029094 215.5270 82.9344 2.05880028 57002

RS-10/11

1 18129U 87054A 94279.98552238 .000000037 00000-0 24189-4 0 9716  
2 18129 82.9231 246.1970 0013262 75.2276 285.0348 13.72342146365243

UO-11

1 14781U 84021B 94280.05570132 .000000133 00000-0 30314-4 0 7442  
2 14781 97.7849 289.5407 0010794 274.8711 85.1258 14.69250936566734

RS-12/13

1 21089U 91007A 94280.01466294 .000000053 00000-0 39986-4 0 7436  
2 21089 82.9199 288.5164 0029834 154.5663 205.6970 13.74047489184009

AO-13

1 19216U 88051B 94279.82589895 -.000000326 00000-0 10000-4 0 9803  
2 19216 57.7091 227.1681 7236196 351.9333 0.7118 2.09723955 16857

UO-14

1 20437U 90005B 94280.18867452 .000000001 00000-0 17448-4 0 433  
2 20437 98.5863 3.4207 0010360 220.3418 139.6999 14.29856915245594

AO-16

1 20439U 90005D 94280.24002223 -.000000009 00000-0 13633-4 0 8416  
2 20439 98.5955 4.8269 0010596 221.8837 138.1539 14.29910670245619

DO-17

1 20440U 90005E 94280.25338488 .000000005 00000-0 18740-4 0 8424  
2 20440 98.5962 5.2019 0010818 220.2754 139.7626 14.30050727245631

WO-18

1 20441U 90005F 94280.23074718 -.000000017 00000-0 10385-4 0 8450  
2 20441 98.5956 5.1710 0011296 220.7550 139.2789 14.30024326245633

LO-19

1 20442U 90005G 94279.78155006 .000000011 00000-0 21381-4 0 8405  
2 20442 98.5966 5.0139 0011562 222.0533 137.9763 14.30122291245582

FO-20

1 20480U 90013C 94280.40939116 .000000001 00000-0 66623-4 0 7382  
2 20480 99.0559 51.1170 0541207 85.3114 280.9553 12.83227882218522

AO-21

1 21087U 91006A 94278.89635359 .000000094 00000-0 82657-4 0 5263  
2 21087 82.9361 60.7692 0035589 133.3909 227.0221 13.74545850184794

UO-22

1 21575U 91050B 94280.17559102 .000000025 00000-0 23148-4 0 5476  
2 21575 98.4264 352.3581 0007497 322.8605 37.2069 14.36934048169167

KO-23

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1 22077U 92052B   94280.43439393 -.000000037  00000-0 10000-3 0  4403
2 22077  66.0816  44.9601 0015333 260.6656  99.2625 12.86287889101225
KO-25
1 22830U 93061H   94280.19155718 .000000005  00000-0 19554-4 0  3441
2 22830  98.5460 350.9336 0010876 205.6748 154.3899 14.28065096 53684
KO-25?
1 22828U 93061F   94276.12717540 .000000047  00000-0 36568-4 0  3151
2 22828  98.6410 350.8797 0009370 240.5615 119.4653 14.28068001 21184
IO-26
1 22826U 93061D   94276.14163591 .000000002  00000-0 18561-4 0  3369
2 22826  98.6421 350.8706 0008492 256.8184 103.2049 14.27740626 53093
AO-27
1 22825U 93061C   94276.09844924 .000000034  00000-0 31673-4 0  3384
2 22825  98.6450 350.7766 0007917 257.5293 102.5036 14.27636072 53085
PO-28
1 22829U 93061G   94276.13467659 -.000000002  00000-0 17110-4 0  3307
2 22829  98.6424 350.9057 0009325 242.1756 117.8479 14.28042098 53107
Mir
1 16609U 86017A   94280.02167417 .00013746  00000-0 19106-3 0  7938
2 16609  51.6465 346.7504 0002920 106.3923 253.7399 15.57299031493441

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Keplerian bulletins are transmitted twice weekly from W1AW.

The next scheduled transmission of these data will be Tuesday,  
October 11, 1994, at 2230z on Baudot and AMTOR.

NNNN

/EX

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Date: 9 Oct 1994 00:07:44 GMT  
From: anto@gate.net (Nigel Kirlew)  
Subject: Phase schedules

Art Jeyes (art\_jeyes@jhuapl.edu) wrote:

: Hi.... I am new to rec.radio.amateur.space and am just thinking about  
: getting active in Sat comms....

: Could someone explain the phase schedules I have seen for some of the sat  
: modes .... (I understand the modes Mode B, S etc) just not the phasing..

: for example ... what does MA 20 to MA 50 mean ...

MA stands for mean anomaly. It is a number between 0 and 256. It is used to locate the satellite in it's orbit. For example, MA 0 means the satellite is at perigee (point where satellite height is minimum). At MA 128, the satellite is at apogee (point in orbit where satellite height is maximum). With MA between 0 and 128, the satellite is headed toward apogee. Likewise, if MA is between 128 and 256, the satellite is headed toward perigee. Note

that MA 0 and 256 refer to the same point, perigee.

The MA is frequently used to indicate when transponders will be turned on and off during any orbit.

: Thanks... Art Jeyes  
: AA3GU  
: Art.Jeyes@jhuapl.edu  
: AA3GU@W3ZH.MD.USA

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Nigel Kirlew, N4TKC  
anto@gate.net

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Date: Fri, 7 Oct 1994 19:54:27 GMT  
From: astroman@netcom.com (SignalMan)  
Subject: STS-68 Orbital State Vector Rev #118

Vector format = 1017  
Satellite Name: STS-68  
Catalog Number: 23285 94062A  
Epoch Date/Time: 94280.68261223380  
10/07/1994 16:22:57.697 UTC  
ECI X: 15020015.927823 ft  
M50 Y: 15437410.467789 ft  
Z: 1689711.547567 ft  
Xdot: -11119.25391 ft/s  
Ydot: 8476.57812 ft/s  
Zdot: 21367.92578 ft/s  
ndot/2 (drag): 0.00258400083 rev/day^2  
nddt/6: 2.73900E-07 rev/day^3  
Bstar: 8.59739E-05 1/Earth Radii  
Elset #: 15  
Rev @ Epoch: 118.01546193727

MSDOS/PC software is available for conversion of  
OSV to 2 Line Keplerian Elements via ftp to:  
oak.oakland.edu:/pub/msdos/hamradio/v2l9331.zip  
and the SIMTEL archives.

State Vectors courtesy Ken Ernandes N2WWD

SM

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Date: Sat, 8 Oct 1994 22:09:07 GMT  
From: astroman@netcom.com (SignalMan)  
Subject: STS-68 Orbital State Vector Rev #118

Vector format = 1017

Satellite Name: STS-68  
Catalog Number: 23285 94062A  
Epoch Date/Time: 94280.68261223380  
10/07/1994 16:22:57.697 UTC  
ECI X: 15020015.927823 ft  
M50 Y: 15437410.467789 ft  
Z: 1689711.547567 ft  
Xdot: -11119.25391 ft/s  
Ydot: 8476.57812 ft/s  
Zdot: 21367.92578 ft/s  
ndot/2 (drag): 0.00258400083 rev/day^2  
nddt/6: 2.73900E-07 rev/day^3  
Bstar: 8.59739E-05 1/Earth Radii  
Elset #: 15  
Rev @ Epoch: 118.01546193727

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and the SIMTEL archives.

State Vectors courtesy Ken Ernandes N2WWD

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End of Ham-Space Digest V94 #285

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